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Disposal of Hazardous Wastes - Transportation

NATO Com. on the Challenges of Modern Society, Brussels, Belgium

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Pilot Study

Disposal of Hazardous Wastes

Transportation

Report prepared by the United States of America

Committee on the Challenges

of Modern Society

North Atlantic Treaty Organization

July 1977

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Report of the Transport Subproject to the NATO/CCMS Pilot Study on the Disposal of Hazardous Wastes

Background

At the joint meeting of the NATO/CCMS Pilot Study Group in Bonn, Germany, May 10-13, 1976, it was agreed that the Pilot Group would prepare lists of those wastes considered to be hazardous to health or the environment and compare these lists against criteria contained in the United Nations (U.N.) Recommendations on the Transport of Dangerous Goods. Those wastes found not to meet existing U.N. criteria were to be forwarded to the Transport Subproject for review and recommendations concerning transport.

On behalf of the Pilot Study Group, the United States Environmental Protection Agency (EPA), on August 13, 1976, submitted to the Transport Subproject lists of hazardous waste compounds identified as Tables I, II, and III (Appendix A). These lists it should be pointed out are examples of hazardous wastes posing environmental hazards, but are not complete formal lists. An analysis of Table I by the Transport Subproject indicated that each of the compounds listed were covered by existing U.N. Recommendations for the Transport of Dangerous Goods. For those compounds shown as "not listed" under the U.N. in Table I, the proper U.N. Class and Division are shown.

With respect to Tables II and III, the Transport Subproject did not feel analysis was feasible at this time in view of the fact that basic classification criteria for non-acute hazards in hazardous wastes have not been developed.

Generally, hazardous wastes would be subject to the U.N.

Recommendations on the Transport of Dangerous Goods if they constituted an acute hazard in transport. It is recognized, however, that there are wastes which are chronic in nature, yet pose hazards to health and the environment.

At the Bonn meeting of the Transport Subproject, the Federal Republic of Germany (FRG) submitted a proposal for the classification of hazardous wastes having flammable, poisonous (toxic), or corrosive properties. This proposal has considerable merit in classifying mixtures of hazardous wastes. The FRG proposal, attached as Appendix B, would apply to mixtures if any one of several substances in the wastes was subject to the U.N. Recommendations.

It was recognized, however, that the non-mixture type of hazardous waste, whether liquid or solid, constituting a chronic rather than an acute hazard, is more difficult to resolve than mixtures or pure substances of the acute type.

The U.N. Committee of Experts and its Group of Rapporteurs have taken cognizance of the hazardous waste problem, and at its March 1976 meeting in Geneva decided to ask the Organization for Economic Co-operation and Development (OECD) to submit the information shown in paragraph 19 of Attachment C. The information is similar to the data already sent to the Transport Subproject by EPA. It will be noted in paragraph 21 of Attachment C that the Government of France had earlier proposed that polychlorinated biphenyls be included in the U.N. Division 6.1 (Poisonous Substances).

The Transport Subproject agrees with the U.N. Committee of Experts that "divergent approaches by different organizations to the environment problems occuring in transport" should be avoided. If hazardous wastes are to be controlled from the producer to the disposer it is imperative that uniform standards exist for shipping papers (manifest), packaging, vehicle equipment, labelling, placarding, and emergency response for spills.

Recommendations

1. The compounds shown in Table I of Attachment A are all subject to the U.N. Recommendations on the Transport of Dangerous Goods. However, the environmental hazards shown under "Comment"

in Table I are not always recognized in the U.N. Recommendations. The original shipper (producer) or any subsequent shipper should be responsible for selection of the packaging or vehicle equipment, labelling, placarding, and clearly indicating to the transporter on the shipping paper (manifest) the information required to transport the hazardous wastes to the disposer including the composition of hazardous wastes, as well as attaching to the shipping paper information necessary to prevent spills from endangering health or the environment in the event of an accident.

2. The U.N. Committee of Experts on the Transport of Dangerous Goods should be asked to establish a new classification scheme for those hazardous wastes which do not meet existing U.N. criteria. Several options which could be considered are:
   a. New divisions under U.N. Classes 3, 6, and 8 i.e., Division 3.4 for flammables; Division 6.3 for poisonous (toxic) substances; and Group IV for corrosive under Class 8.
   b. Establishment of a new division for hazardous wastes in U.N. Class 9 (Miscellaneous Dangerous Substances).
   c. Creating of a new U.N. Class 10 entitled: "Environmentally Hazardous Substances" for those wastes hazardous to health or the environment, but which do not meet existing U.N. criteria for the transport of dangerous goods.

3. The U.N. should be asked to adopt the FRG proposal shown in Attachment B for the transport of mixtures of hazardous wastes.

4. The OECD should be asked to furnish the U.N. with classification criteria for the waste substances shown

in Tables II and III so that these substances can be made subject to U.N. Recommendations for the Transport of non-acute hazardous wastes agreed upon at a later date.

5. Hazardous wastes of a chronic type which might pose a hazard for health or the environment, but which do not meet U.N. classification criteria for dangerous goods should be subjected to shipping paper (manifest) marking requirements so that the wastes can be controlled from producer to disposer, including requirements for handling spills due to accidents.

6. As new examples of hazardous wastes become known, the Pilot Group should forward these lists of wastes to the U.N. for inclusion in the U.N. Recommendations.

7. Subsequent to the Pilot Group meeting in Washington, May 9-13, 1977, the United Kingdom notified the Transport Subproject they would prefer the categorization of wastes to be along the lines of the provisional list at present under discussion in U.K. for the labelling of tank vehicles (Appendix D). The United Kingdom proposal should be forwarded to the U.N. for consideration.

ATTACHMENT A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
OFFICE OF SOLID WASTE MANAGEMENT PROGRAMS

AUG 1 0 1973

OFFICE OF
AIR AND WASTE MANAGEMENT

Mr. William J. Burns
Assistant Director
Office of Safety Affairs
U.S. DOT
400 Seventh Street, S.W.
Room 10125
Washington, D.C.
Attention: Code TES-10

Dear Bill:

As I promised at the Experts meeting of the Pilot Project on Hazardous Waste Management, we analyzed the list of hazardous substances promulgated under Sec. 311 of the Federal Water Pollution Control Act as potential candidate substances which could create hazardous wastes by their presence. Table I lists compounds, their current U.S. DOT designation, their UN number, and a commentary on the additional environmental risk of these substances. Those substances not listed by the UN or listed as category 9 require immediate attention in terms of our project. In addition, the remaining compounds on the list would appear to have insufficient labeling by either authority to recognize environmental effects of improper disposal. Both these issues deserve attention by your Sub-Project.

Table II (and attachments A, B, C) relate the compounds in Table I (by number) to the waste lists of three of the NATO countries. That is, waste streams listed under each country can logically contain the compounds in Table I. Recommendations for recognizing these hazardous wastes as potential environmental problems in the UN community are needed.

Table III lists several compounds which OSHA recognizes as carcinogens or sensitizers which are not recognized by UN or DOT regulations. Sub-Project [illegible] ing compounds such as these are desirable as well.

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In order to maximize your review time, by copy of this letter I am requesting additional comment on our analysis by the participating countries and suitable additions or corrections. If I have not received any comment by September 30, 1976, I will notify you so that you may continue working with this submission. In the event that changes arise, I will advise you.

I hope this information will be a fruitful background document for your work. Please contact me if you have any further questions.

Very truly yours,

John P. Lehman
Director
Hazardous Waste Management Division (AW-465)

Enclosures

cc: B. Wolbeck
R. Osmond
B. Jachimiak
F. van Veen
J. Van Medaets
K. Warnoe
E. Bonomolo
P. Mazerolle
B. Risch
F. Harris
E. Campbell
J. Thompson
D. Borchers (without enclosures)
V. Grey (without enclosures)

Table I

The following table of compounds have been assigned DOT and/or UN labels, however, these labels may be inadequate to deal with potential environmental effects, as explained under the comments heading.

COMPOUND	DOT	UN	COMMENT
1. Acetaldehyde	Flam. Liq.	3	On EPA 311 list, due to aquatic toxicity
2. Acetic Acid	Corrosive	3	" "
3. Acetyl Bromide	Corrosive	8	" "
4. Acetyl Chloride	Flam. Liq.	8	" "
5. Allyl Chloride	Flam. Liq.	3,6.1	" "
6. Ammonium per Sulphate	Not Listed	5.1	" "
7. Amyl Acetate	Flam. Liq.	3	" "
8. Antimony Pentachloride	Corrosive	8	" "
9. Antimony Trichloride	Corrosive	8	" "
10. Benzene	Flam. Liq.	3	-inhalation of vapours containing 7% benzene cause blood dyscrasias and are considered by OSHA to be highly toxic by inhalation. - On EPA 311 list, due to aquatic toxicity
11. Benzoyl Chloride	Corrosive	8	On EPA 311 list, due to aquatic toxicity
12. Benzyl Chloride	Corrosive	6.1	On EPA 311 list, due to aquatic toxicity
13. Benzidene	Not Listed	6.1	Carcenogenic - recognized by OSHA
14. Bromobenzene	Comb. Liq. No Labels Required	3	heptotoxin
15. Butylacetate	Flam. Liq.	3	On EPA 311 list, due to aquatic toxicity - and oral mammalian toxicity
16. Butylamine	Flam. Liq.	3	On EPA 311 list, due to aquatic toxicity
17. Butyric acid	Corrosive	8	" "

COMPOUND	DOT	UN	COMMENT
18. Carbon Tetra-chloride	ORM-A no label required	6.1	-Carcinogen, Mutagen, Referenced by IA -toxic to aquatic life-NIOSH
19. Chloroform	ORM-A no label required	6.1	-carcinogenic, mutagenic, referenced by IARC -toxic to aquatic life-NIOSH
20. Creosote	combustible liquid, no label req.	4.1	-carcinogenic - referenced by IARC
21. Calcium Carbide	Flam. Solid	4.3	On EPA 311 list, due to aquatic toxici
22. Carbon Disulfide	Flam. Solid	3	" "
23. Chlordane	comb. liq. no label req.	6.1	" "
24. Chlorobenzene	Flam. Solid	3	" "
25. Chlorosulphonic Acid	Corrosive	8	" "
26. Crocidolite (Blue Asbestos)	Not listed	9	Carcinogenic - OSHA
27. Chromic flouride solid	Corrosive	8	Carcinogenic - OSHA
28. Coal Tar Oil	Comb. Liq. no label req.	3	Skin and Liver Cancer IARC
29. Chromium Oxy-chloride	Comb. liq.	8	Skin and Liver Cancer IARC Very toxic to aquatic life-NIOSH
30. DDT	ORM-A no label req.	6.1	Carcinogenic - NIOSH Toxic Sub. List. Mutagenic - NIOSH Toxic Sub. List
31. Dieldrin	ORM-A no label req.		Carcinogenic - NIOSH Toxic Sub. List Mutagenic - NIOSH Toxic Sub. List
32. Dimethyl Sulfate	Corrosive and Poison	6.1	Carcinogen, teratogen, NIOSH Toxic Sub. List
33. Diazinon	ORM-A no label req.	6.1	- Suspected mutagen - listed as such on EPA OPPTADS - On EPA 311 list, due to aquatic toxicity

COMPOUND	DOT	UN	COMMENT
34. Dichlorobenzene o or p	ORM-A no label req.	6.1	Carcinogen - IARC Mutagen - IARC
35. Diethylamine	Flam. Liq.	3	-On EPA 311 list, due to aquatic toxicity -US occupational stds. -air- 25ppm. causes severe respiratory irritation
36. Dimethylamine	Flam. Liq.	3	-On EPA 311 list, due to aquatic toxicity
37. Ethylene imine	Flam. Liq. Poisonous	3,6.1	Carcenogenic-recognized by OSHA can be absorbed by skin
38. Ethyl benzene	Flam. Liq. Poisonous	3	Carcenogenic-recognized by OSHA can be absorbed by skin
39. Ethylene dichloride	Flam. Liq.	3	Suspected mutagen - EPA's CHMTADS List - skin absorbed
40. Ethylene diamine	Flam. Liq.	8	Suspected mutagen - EPA's CHMTADS List - skin absorbed
41. Ethylene dibromide	ORM-A - no label req.	6.1	Mutagen - EPA's CHMTADS List
42. Formaldehyde	Comb. liq. or ORM-A no label required	3	ON EPA 311 list, due to aquatic toxicity
43. Furfural	Comb. liq. no label required	3	On EPA 311 list, due to aquatic toxicity - 5ppm. air stds. - affects the eye
44. Fusel oil	Comb. liq. no label required	3	Suspected mutagen - NIOSH Toxic Sub. List
45. Malathion	ORM-A no label required	6.1	On EPA 311 list, due to aquatic toxicity
46. Napthalene	ORM-A - no label required	4.1	" "
47. Napthylamine	not listed	6.1	Carcinogenic - IARC
48. PCB	not listed	9	Carcinogenic - IARC
49. Toluene	Flam. Liq.	3	On EPA 311 list, due to aquatic toxicity
50. Vinyl Chloride	Flam. Gas, not listed for	2,3	Carcinogenic - IARC

COMPOUND	DOT	UN	COMMENTS
51. Xylene	Comb. liq. no label req.	3	On EPA 311 list, due to aquatic toxicity
52. Zinc Phosphide	Flam. Solid & Dangerous when wet	6.1	On EPA 311 list, -due to aquatic toxicity -due to oral mammalian toxicity

Table II

The following table lists compounds from Table 1 and catalogues the waste categories (of England, Germany and France) which might contain these species. The wastes are classified in the Table in the same manner the respective governments do (See attachments A, B, and C)

COMPOUND	ENGLAND		GERMANY	FRANCE
	group code	subgroup		
1	L10 K80 P10	K83		hydrocarbons
2	L10 B10 L10 N10 P10 R40	B11 L12	30, 52	hydrocarbons
3	R40 K50	K52	75	hydrocarbons
4	R40 N10 K50 L10 M60	K52	52, 75	hydrocarbons
5	L10 T30 R80 N10 K50	K52	52, 75	hydrocarbons, pharm., chlorinated solvent
6	C20 C90 C10 R40 P20		42, 44, 49	surface processing waste

COMPOUND	ENGLAND		GERMANY	FRANCE
7	K80 R80 T30 L10	K81 L12	70,75	paint sed & hydrocarbon
8	R40 H20 D90	 H21 D99		
9	R40 H20 D90 S90	 H21 D99	2, 39	suface finishing, pharm.
10	K10 M20 M30 N20 R80	 N21	70	refining, paint sed., hydrocarbon
11	K50 L10 L60 N10 R40	K52	52, 75	pharm.
12	R40 S10 R40 N10 K50	 K52	52, 75	pharm.
13	K10 L40 R40	K12		hydrocarbon
14	M30 K10 K50	 K12 K52	61,71	refining, chlorinated solvent
15	S10 R10 L60 L50 L10 K80	S11 L12 K81	52, 70, 72, 75	hydrocarbon
16	R40 K70	 K71	51, 52, 76, 80	hydrocarbon

COMPOUND	ENGLAND		GERMANY	FRANCE
17	T20 S10 N10 M30 L10 B10	S11 B11	2, 25, 52, 75	pharm., refining
18	S90 M30 K40	 K49	8, 71, 72, 74	chlorinated solvent, refining
19	S90 K40 N10	 K49 	8, 52, 71, 72	chlorinated solvent, pharm.
20	S10 R70 J30 K10	 K12	24	refining
21	L10 D90	 D99		
22	J30 K77 L10	 	70	
23	N20	N21	51	
24	R40 M10 K10 K40	 K12 K49	51, 52, 71, 74	chlorinated solvent
25	S50 S20 R40 N13 L10 L60 B10	S52 B15	52, 80	pharm.
26	Q10 J10			asbestos
27	D90 L20	D99	52, 45	hexavalent chrome, - flourides

COMPOUND	ENGLAND		GERMANY	FRANCE
28	S30 R70 R80 R40 N10		24	refining, paint sol., pharm.
29	R40 D90	D99	75	trivalent chrome
30	N20	N21	50	
31	N20	N21	51	
32	K70	K77		
33	N20	N21	51	
34	R40 M10 K10 K40	 K12 K49	51, 71, 75, 76	chlorinated solvent
35	R40 N10 M30 L10 L40 K70	 K71	2, 25, 44, 45, 51, 52, 76	surface finishing, refining, pharm.
36	L10 S10 R40 M30 K70	 S11 K71	1, 2, 25, 44, 53, 75	refining
37	N70 N10 L10 M30 S20	N21	32	refining, pharm.
38	L10 K10	 K12	70	hydrocarbon
39	K40 L10 M30 R80 J30	K49	75	chlorinated solvent, refining, paint sol.

COMPOUND	ENGLAND		GERMANY	FRANCE
40	S10 L10 R40 K70	S11 K71	2,25,53,	
41	M30 N10 L40 K50	 K52	52	refining, pharm.
42	K80 L10 R40 N10 S10 S10 M30	K83 S11 S12	2,25,52	pharm., refining
43	M10 M30 L10 R40 J30 K80	 K81	3,56,	refining, pharm.
44	L10 L40 N10		52	pharm.
45	K10 R40 M10 M20 S10	K12 S11	50	refining
47	R40 K10	 K12	52, 75	refining
48	K50	K51		PCB's
49	M30 K10 L10 R80	 K12 	70, 75	refining , paint
50	L10 K50	 K52		
51	M30 R80		70, 75	

COMPOUND	ENGLAND		GERMANY	FRANCE
COMPOUND				
52	N10 D90	D92		

Table III

The following Table of compounds have neither been assigned DOT or UN labels, but might present an environmental hazard as explained under the comment heading.

Compound	Comment
4 - amino diiso cyanate	Carcinogen -OSHA
Chloromethylether	Carcinogen -OSHA
Diethylene Triamine	Sensitizer -OSHA*
Isophorone diisocyanate	Sensitizer -OSHA*
Methyl isocyanate	Sensitizer -OSHA*
Nitrobiphenyl	Carcinogen -OSHA

*-A material that human experience show to be capable of inducing an allergic or photodynamic reaction in a substantial number of persons who come into contact with it and which is designated as such by the Secretary.

WASTE LIST (UNITED KINGDOM)

DIFFICULT WASTES

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Inorganic acids	Hydrochloric acid	A10	
	Sulphuric acid	A20	
	Nitric acid	A30	
	Chromic acid	A40	
	Phosphoric acid	A50	
	Hydrofluoric acid	A60	
	Others	A90	
Organic acids and related compounds	All	B10	
	Aliphatic acids eg formic, acetic and oxalic acids		*B11*
	Aromatic acids eg benzoic, phthalic acids		*B12*
	Acid anhydrides eg acetic, phthalic anhydrides		*B13*
	Acid chlorides eg acetyl, benzoyl chlorides		*B14*
	Sulphonic acids		*B15*
	Others		*B19*
Alkalis	Alkali metal oxides and hydroxides, calcium oxide, proprietary alkaline cleaners	C10	
	Sodium and/or potassium hydroxides or oxides		*C11*
	Calcium oxide		*C12*
	Proprietary alkaline cleaners		*C13*
	Ammonia	C20	
	Others	C90	
	Calcium hydroxide		*C91*
	Sodium and/or potassium carbonates		*C92*

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Toxic metal compounds	Cadmium	D10	
	Mercury	D20	
	Lead	D30	
	Arsenic	D40	
	Others	D90	
	Copper		*D91*
	Zinc		*D92*
	Barium (water soluble forms)		*D93*
	Thallium		*D94*
	Nickel		*D95*
	Vanadium		*D96*
	Silver		*D97*
	Others		*D99*
Non-toxic metal compounds	Iron	E10	
	Others	E90	
	Ammonium salts		*E91*
	Titanium		*E92*
	Others		*E99*
Metals (Elemental)	Alkali, alkaline earth and other hazardous metals	F10	
	Sodium and potassium		*F11*
	Cadmium		*F12*
	Mercury		*F13*
	Aluminium		*F14*
	Magnesium		*F15*
	Other metals	F90	

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Metal oxides	Hazardous oxides	G10	
	Cadmium oxide		*G11*
	Beryllium oxide		*G12*
	Others		*G19*
	Other oxides	G90	
Inorganic compounds	Cyanides	H10	
	Sodium and potassium cyanides		*H11*
	Soluble complex cyanides		*H12*
	Ferro and ferri cyanides		*H13*
	Other cyanides		*H19*
	Others which liberate toxic gases on acidification	H20	
	Sulphides, selenides, tellurides and arsenides		*H21*
	Oxidising compounds	H30	
	Hypochlorites and chlorites		*H31*
	Chlorates, perchlorates, bromates, iodates, periodates, persulphates and permanganates		*H32*
	Peroxides		*H33*
	Toxic compounds	H40	
	Chromates		*H41*
	Fluorides, silicofluorides, borofluorides		*H42*
	Arsenates and arsenites		*H43*
	Others	H90	
	Carbides and acetylides		*H91*
	Borates		*H92*
	Nitrites		*H93*
	Nitrates		*H94*

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Other inorganic materials	Asbestos	J10	
	Slag including boiler and flue cleanings	J20	
	Mineral processing wastes	J30	
	Silt and dredgings	J40	
	Water (contaminated)	J50	
	Metal scrap	J60	
	Ferrous metal scrap		*J61*
	Non-ferrous metal scrap		*J62*
	Others	J90	
Organic compounds	Hydrocarbons (not included in M)	K10	
	Aliphatic hydrocarbons		*K11*
	Aromatic hydrocarbons		*K12*
	Phenols, analogues and derivatives	K20	
	Chlorinated phenols and analogues		*K21*
	Peroxides	K30	
	Halogenated cleaning compounds	K40	
	Trichloroethylene		*K41*
	Perchloroethylene		*K42*
	Trichlorethane		*K43*
	Trichlorotrifluoroethane		*K44*
	Others		*K49*
	Halogenated compounds excluding cleaning compounds	K50	
	PCBs and analogues		*K51*
	Other halogenated hydrocarbons		*K52*

(continued over page)

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Organic compounds (*contd.*)	*Other halogenated organics eg chlorinated dioxins*		*K53*
	Organo metallics	K60	
	Tetra ethyl lead		*K61*
	Tetra methyl lead		*K62*
	Others		*K69*
	Nitrogen, sulphur or phosphorus-containing compounds	K70	
	Amines and amides		*K71*
	Nitro compounds		*K72*
	Nitriles		*K73*
	Isocyanates		*K74*
	Other organo nitrogen compounds		*K75*
	Organophosphorous compounds		*K76*
	Organosulphur compounds		*K77*
	Oxygen-containing compounds	K80	
	Esters		*K81*
	Ethers		*K82*
	Aldehydes and Ketones		*K83*
	Alcohols		*K84*
	Others	K90	
	Chelating compounds		*K91*
	Phthalates		*K92*
Polymeric materials and precursors	Precursors, monomers and products o. incomplete polymerisation	L10	
	Epoxy resins (not finished products)		*L11*

(continued over page)

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Polymeric materials and precursors *(contd.)*	*Polyester resins (not finished products)*		*L12*
	Phenol-formaldehyde resins (not finished products)		*L13*
	Finished products and manufacturing scrap	L20	
	Polyurethane		*L22*
	Other resins and polymeric materials		*L29*
	Scrap rubber (including tyres)	L30	
	Latex, latex and rubber solutions and suspensions	L40	
	Synthetic adhesive wastes	L50	
	Ion exchange resin wastes	L60	
Fuel, oils and greases	Mineral oils	M10	
	Kerosene and derv	M20	
	Fuel oil	M30	
	Vegetable and other oils	M40	
	Oil/water mixtures	M50	
	Fats, waxes and greases	M60	
Fine chemicals and biocides	Pharmaceuticals and cosmetic products	N10	
	Pharmaceutical products in retail containers		*N11*
	Pharmaceutical products in bulk and production containers		*N13*

(continued over page)

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Interceptor wastes, tars, paint, dyes and pigments *(contd.)*	Acid tars	R60	
	Tar, pitch, bitumen and asphalts	R70	
	Paint waste (manufacture and use)	R80	
Miscellaneous wastes	Tannery and fellmongers waste	S10	
	Tannery waste		*S11*
	Fellmongers waste		*S12*
	Cellulose wastes (natural and synthetic)	S20	
	Waste treated timber	S30	
	Soap and detergents	S50	
	Soap		*S51*
	Detergents		*S52*
	Other industrial wastes	S90	
Animal and food wastes	Animal processing wastes	T10	
	Carcasses and flesh		*T11*
	Blood, fat grease etc		*T12*
	Excrement		*T13*
	Food processing wastes (including starch)	T20	
	Glue wastes	T30	

Type of waste	Groups and *Sub-groups*	Group code	Sub-group code
Fine chemicals and biocides *(contd.)*	Biocides	N20	
	Pesticides		*N21*
	Herbicides		*N22*
	Fungicides		*N23*
	Other biocides		*N29*
Miscellaneous chemical waste	Mixed organic compounds	P10	
	Mixed inorganic compounds	P20	
	Unidentified chemical waste	P30	
	Organics identified by trade names only*		*P31*
	Inorganics identified by trade names only*		*P32*
	*Where trade names are used the source of the material should be specified.		
Filter materials, treatment sludge and contaminated rubbish	Used filter materials eg kieselguhr, carbon, filter cloths	Q10	
	Contaminated rubbish (including bags and sacks)	Q20	
	Empty used containers	Q30	
	Industrial effluent treatment sludge	Q40	
Interceptor wastes, tars, paint, dyes and pigments	Tank cleaning sludge (note K.60 for lead content)	R10	
	Interceptor pit wastes (note M.10–M.30 for oil content)	R20	
	Printing industry wastes (ink manufacture and use)	R30	
	Dyestuffs waste	R40	
	Distillation residues	R50	

B

List of Hazardous Wastes

Draft, Federal Environmental Agency (Berlin-West)

(as of March 12, 1976)

No.	TYPE OF WASTE	WITH REFERENCE TO: ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
	TANNERY WASTES			
	lime mud	tanning, raw skin treatment	Organic material (i.e. animal hair, flesh or skin) Sodium sulfide, lye, slaked lime, Ammonia	compact - sludge intensive odor* corrosive
2	tannery tailings	tanning, raw skin treatment	Organic material, according to procedure: organic chemical (for example: aliphatic hydrocarbons aldehydes, ketones, quinone, etc.) sulfuric acid, chorine, chromium-III salts, chromium-IV salts.	compact - sludge intensive odor* Toxic corrosive
	METALLURGICAL SLAG AND DROSS			
3	salt tailings	light metal remelting	Sodium chloride, calcium chloride, Phosphate, chloride, bromide, Sulfate, Nitrate, Fluoride	solid intensive odor* easily soluble* (ground water. salinization)

No.	TYPE OF WASTE	WITH REFERENCE TO: ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
4	Lead dross	Lead foundries, printing plants	Lead, Antimony, Arsenic	solid toxic*
5	Aluminum dross	Aluminum foundries Aluminum smelters Aluminum works	Aluminum Metals (i.e. Magnesium) Chloride, Fluoride, Sulfate, Bromide	solid reactive*
6	Magnesium dross	Magnesium foundries Magnesium smelters Magnesium works	Magnesium Alkali - and alkaline earth chloride	solid easily inflammable*
7	Slag from fusion electrolysis	light metalware	according to process Metals (i.e. sodium, Lithium, Magnesium etc.) Salts (Chloride, Fluoride, Phosphate, Nitrate	solid easily soluble (ground water salinization)
	OTHER SOLID MINERAL WASTE			
1	Kieselguhr	Chemical industry Breweries, Liquor production, chemical purifications and cleaning	according to field Organic solvents (i.e. Trichloroethylene, Perchloroethylene) Organic Material (i.e. yeast, egg white)	compact- sludge intensive odor* toxic*

No.	TYPE OF WASTE	WITH REFERENCE TO: ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
	MINERAL SLUDGE			
9	Barium sulfate sludge	Preparation of chloro-products, chemical Industry	halogenated hydrocarbons	compact - sludge intensive odor toxic*
	NONFERROUS TAILINGS			
10	Aluminum waste, - dust	Aluminum works Aluminum processing	Aluminium	solid reactive,* pulverulent*
11	Beryllium turnings, - dust	Beryllium processing Production of navigation instruments	Beryllium	solid toxic*, pulverulent*
12	Magnesium waste, - dust	Magnesium Processing, Semifabrication	Magnesium	solid easily inflammable* pulverulent*
13	Zinc waste, - dust	Zinc Works Zinc Processing Chemical Industry	Zinc, Arsenic compounds	solid toxic*, pulverulent*

TYPE OF WASTE		WITH REFERENCE TO:		
No.		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
	GALVANIC SLUDGE			
14	Cyanide containing Galvanic sludge	Galvanic operations Galvanotechnique Partial operations: optical, iron- and metal processing industry, Machine - and Vehicle construction, construction industry, apparatus contruction, computer-, radio-television-, Watch- and jewelry industry	According to procedure Metal cyanide, metal hydroxide	compact - sludge acid-basic* toxic*
15	Chromium-VI- containing Galvanic sludge		Chromium-VI Salts Chromium-VI Hydorxide	compact - sludge acid-base, toxic*
16	Chromium III - containing Galvanic sludge		Chromium-III Salts Chromium-III Hydroxide	compact - sludge acid-base, toxic*
17	Copper containing Galvanic sludge		According to procedure: Copper sulfate, copper cyanide, sodium cyanide, soda, copper hydroxide	compact - sludge acid-base, toxic*

TYPE OF WASTE		WITH REFERENCE TO:		
No.		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
18	Zinc containing Galvanic sludge	Galvanic operations Galvanotechnique Partial operations: i.e.: the electro-technical, optical, iron- and metal processing industry, Machine - and Vehicle construction, construction industry, apparatus construction, computer-, radio-television-, Watch- and jewelry industry	According to procedures: Zinc Sulfate, Ammonium sulfate, Zinc Cyanide, Sodium cyanide, Lye, Zinc hydroxide	compact - sludge acid-base * toxic *
19	Nickle containing Galvanic sludge		Nickel sulfate, Nickel chloride, Nickel hydroxide	compact - sludge acid-base * toxic *
20	Cobalt containing Galvanic sludge		Colbalt salts, cobalt hydroxide	compact - sludge acid-base * toxic *
21	Thallium containing Galvanic sludge		Thallium salts, Thallium hydroxide	compact - sludge acid-base * toxic *
	SALTS			
23	Carburizing agents	Hot quenching shops	Cyanide, Nitrate, Nitrite	solid easily soluble * (groundwater salts) toxic *

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.				
24	Impregnating salt tailings	Woodworking industries	Coppersulfate, zinc chloride, wood tar phenolic substances	liquid-viscous liquid toxic*, carcinogen*
25	Leather-working chemicals, tanning substances	Tanneries	according to process: Organic chemicals(for example: aliphatic hydrocarbons, aldehydes, ketones, quinone, etc.) Chlorine, sulfuric acid, chromium IV- and III - compounds, tanning agents (e.g. gall-nuts), dyes (chromic, metal complex)	liquid* intensive odor toxic* corrosive
26	Gas cleaning waste	Cokeries, Gas works	Hydrogen sulfide, carbon disulfide	solid intensive odor toxic*
27		Hot quenching	according to procedure: metal salts	solid easily soluble (groundwater salinization) toxic*
28	Calcium Arsenide	Nonferrous metal works	Calcium arsenate, calcium arsenite	solid toxic*

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.	ACIDS			
29	Storage battery acids	Old batteries of motor vehicles, scrap yards, auto industries, railway	Sulfuric acid, lead sulfate	liquid toxic*, corrosive
30	Spent acids and acid mixtures	Surface treatment of metals, pickling plants, mordant plants, galvanic plants, chemical industries	Acids, metal slats	liquid toxic*, corrosive
31	Mordants	Metal mordants	Acids, metal salts	liquid, toxic*, corrosive
32	Hydrofluoric acid containing mordants	Metal mordants	Hydrofluoric Acid, Fluoride, Metal salts	liquid, toxic*, corrosive
33	Chromium sulfate	Labs, Clinics	Sulfuric acid, Chromium-VI - salts	liquid, toxic*, corrosive
	LEACH			
34	Mordants	Metal mordants	Leach, metal salts	liquid, toxic*, corrosive

No.	TYPE OF WASTE	WITH REFERENCE TO: ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
35	Spent lye, lye mixtures	Surface treatment of metals, pickling plants, mordant plants, galvanic plants, chemical industries	Lyes, Metal salts	liquid toxic*, corrosive
	CONCENTRATE			
36	Hypochlorite - spent lye	Bleaching, cellulose- and textile industries	Calcium hypochlorite, Chlorlignin, Chlorine	liquid, corrosive*
37	Nitrate solution	Chemical Industry, Pickling plants	Nitrate, Nitric acid	liquid, toxic*, corrosive
38	Derusting baths	Surface treatment of iron, mordants	according to process: Hydrofluoric acid, phosphoric acid, Nitrile, Sulfoxide, Cu-I-Chloride, Antimon-III-Chloride, Mercury-II-Chloride	liquid, toxic,* corrosive
39	Bronzing baths	Surface treatment of tools	according to process: Alkalihydroxide, Alkalinitrate, Metal complexes, chromium IV slats, sulfuric acid, hydrofluoric acid	liquid, toxic,* corrosive
40	Semi-concentrates (friciton and wash water)	Galvanic plants	according to process: Acids, Lye, Metal salts	liquid, toxic,* corrosive

TYPE OF WASTE		WITH REFERENCE TO:		
No.		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
41	Boiling bath (Gold)	Watch - and Jewelry - industry	Cyanide gold complexes, lake-colored Pigments	liquid toxic*
42	Fixing bath	Photofinishing and labs, Stereotypes Shops, printing and copying plants	Thiosulfate complex, Quinone	liquid toxic*
43	Sulfite spent liquor	Cellulose industry	Sulfuric Acid, Lignin sulfuric acid	liquid corrosive*
44	Galvanic concentrate	Galvanic plants	according to process: Metal salts, Cyanides, Acids, Lyes, Metal complexes	liquid toxic*, corrosive
45	Tannery liquor (chromium)	Tanneries	according to process: Chromium-III-salts, Chromium-VI-salts, Sulfuric acid, Chromium complexes	liquid toxic*, corrosive
46	Chromium bath solution	Galvanic plants	Chromium-III-Salts, Chromium-VI-Salts, Sulfuric Acid	liquid toxic*, corrosive
47	Cyanide-containing Concentrate	Surface Treatment of Metals, Galvanic plants, Pickling Plants	Cyanide, according to procedure: Salts, Acids, Lyes	liquid toxic*, corrosive

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.				
48	Cyanide containing rinse- and wash water	Metal surface treatment, pickling plants, Galvanic Plants	Cyanide, Salts	liquid poisonous*
49	Bleaching Baths containing ferric cyanide	Photocopying Plants, Blueprinting	Red Potassium ferrocyanide	liquid poisonous
	WASTE FROM PLANT-PROTECTION AND PESTICIDE AGENTS			
50	Hexacyclohexan-Tailings	Insecticide production	Hexacyclohexane, DDT, Copper Oxide Liquor, Calcium Sulfate Liquor	liquid -muddy poisonous*
51	Biocides	Production of plant-protection agents	Herbicides, Fungicides, Insecticides, Hydrocarbons, Esters of Phosphoric Acids	compact poisonous*
	WASTE FROM DRUG PRODUCTION			
52	Production Waste and Discards	pharmaceutical Industry	Organic and Inorganic Chemicals and Drugs	liquid-compact poisonous*

TYPE OF WASTE		WITH REFERENCE TO:		
No.		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
	MINERAL OILS			
53	Acid Oil Wastes	Textile Industry and pimenting	Mineral Oils, Acids	damaging ground water, corrosive, compact sludge.
54	Spent Oil	Gas Stations, auto shops, industrial shops	Gasoline, Mineral oils, Additives	liquid flammable damaging ground water
55	Waste acids, containing minerals	Mineral oil refineries	Mineral oils, Sulfuric acid	liquid flammable damaging ground water, corrosive
	EMULSIONS AND MINERAL PRODUCT MIXTURES			
56	Synthetic coolants and lubricants	Metal working	Mineral oils, higher hydro-carbons, emulsifiers	liquid damaging ground water
57	Drilling oil emulsions	Metal working	Mineral oils, emulsifiers	liquid damaging ground water

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No. 58	Emulsion Mixtures	metal working	mineral oils, emulsifiers	liquid damaging ground water
59	Mineral oil sediments	decaying plants		compact sludge
	Sediments from separating plants	emulsion separators	Mineral oils, gasoline, lubricants, emulsifiers	damaging ground water
	REFINERY MINERAL WASTE			
60	Oil-containing bleaching earth	Spent oil refinery - lubricant refinery	Universal oils, acid sludge, sulfuric acid, tars, asphalts	compact, solid damaging ground-water, intensive odor, corrosive, carcinogenic
61	Acid sludge Acid Tar	Spent oil refinery - lubricant refinery	Mineral oils, sulfurous acid	viscous - muddy damaging ground water, intensive odor, corrosive

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.				
62	Sediments from mineral oil refineries	Mineral oil refinery petrochemistry	Mineral oils, asphalt, tar, organic and inorganic chemicals (phenosles, sulfides, salts of heavy metals)	compact sludge ground-water damaging, intensive odor.
63	Filter cake containing oil	Mineral oil refinery	Mineral oils, asphalt, tar, organic and inorganic chemicals (phenoles, sulfides, salts of heavy metals)	poisonous carcinogens compact
64	Acid sludge, process tailings	Acid sludge separation	Carbonized organic materials containing sulfur	Compact solid groundwater damaging
	OTHER MINERAL WASTE			
65	Petrochemical Sediments	Petrochemistry	According to Process Mineral oils, acids, lyes, salts, organic and inorganic chemicals	Compact sludge Ground-water demaging, intensive odor poisonous carcinogenic

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No. 66	Sludge containing phenole	gasworks, cokeries, petrochemistry	Phenole, organic and inorganic chemicals	compact sludge groundwater damaging, intensive odor, poisonous
67	Sludge containing mercaptane	petrochemistry	ethyl - and methyl - mercaptane, organic and inorganic chemicals	compact sludge intensive odor, poisonous
68	Tailings containing phenole	petrochemistry gasworks, cokeries	Phenole, organic and inorganic chemicals	compact solid groundwater damaging, intensive odor, poisonous
69	Phenole water	petrochemistry gasworks, cokeries	(e.g. hydrogen sulfide) phenole, organic and inorganic chemicals	liquid groundwater damaging, poisonous

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.	SOLVENTS & SOLVENTS MIXTURES			
70	Non-halogenated Solvents and - mixtures	Chemical Industry, Petrochemistry, Cokery, Gasworks, Surface treatment, Varnish, Textiles, Plastics, Synthetics, Plastic and Synthetic processing.	Cleaning gasoline, Benzol, Toluole, Xylole, Tetraline, Dekaline, Turpentine Methanol, Ethanol, Propanol, Butanol Ethylacetate, Butylacetate, Acetone, Methylethyl Ratone, Methylisobutyl Ketone, Cyclohexanone, Diethylether, Tetra Hydrofurane, Dioxane, Ethylglycol, Methylphenol, Dimethylformamide , Pyridine, Carbon Disulfide, Dimethyl Sulfoxide, Dimethyl Sulfide	liquid groundwater damaging, intensive odor easily flammable corrosive
71	Halogenated Solvents and - mixtures	Metalworking, Pyrotechnics, Chemical cleaning and purification, Coolant-production and use.	Trichlorethylene, Methylenchloride, Carbon Tetrachloride, Ethylenchloride, Chlorbenzole, Chloroform, Perchlorethylene, Trichlorethylene, Monochlorphenol, Dichlorphenol, Solvents with Chlorinated Hydrocarbons: Nonchlorinated Paraffine, PVC-plasticizers, Coolants (frigene, etc)	liquid groundwater damaging, intensive odor easily flammable corrosive

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.	Sludges containing Solvents			
72	Sludge from Solvent distillery	Chemical Industry Solvent recovery Solvent distillation	Solvents, Org. and Inorg. Chemicals Tars	compact sludge groundwater damaging poisonous flammable*
73	Sludge from Solvent separation	Chemical Industry Chemical cleanings and purification	(erp. halogenated hydrocarbons) Solvents, Org. and Inorg. Chemicals Tars	compact sludge groundwater damaging poisonous flammable*
74	Tailings from Purification and degreasing baths	Chemical cleanings, Metalworkings	Halogenated Hydrocarbons	compact sludge groundwater damaging poisonous Flammable*
	Dyes and Varnishes			
75	Varnishand Dye Sediments	Varnishing, Injection Air purifiers, Lacquers and Varnish production	Pigments, Chlorinated Hydrocarbons	viscous-muddy groundwater damaging inter- ive odor

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.	RUBBER TAILORINGS EMULSIONS			
76	Rubber liquor	Rubber Production and Processing	Solvents, Organic Chemicals (e.g., Thioalcohol), organic complexes Buildup	liquid ground-water damaging poisonous
	EXPLOSIVES			
77	Pyrotechnical Wastes	Production and Trade of Firecrackers	Organic and inorganic chemicals (black powder, salts of heavy metals)	Solid explosive flammable
78	Explosive and Munition Waste	Production and Use	Organic and inorganic chemicals, (nitroglycerine, ammonium salts)	solid explosive flammable
	WASTE FROM LABORATORIES			
79	Fine Chemicals	Chemical Industry	Organic and inorganic chemicals solvents	liquid - compact ground water damaging, intensiv odor, corrosive flammable

TYPE OF WASTE		WITH REFERENCE TO:		
		ORIGIN	INTERFERING SUBSTANCES	PROPERTIES
No.	DETERGENT WASTES			
80	Rejects from Washing Agent Production	Chemical Industry Washing agents manufacture	Phosphates, detergents	compact ground water damaging

FRANCE C

PROGRAM OF DECREE DETERMINING THE LIST OF CATEGORIES OF WASTES PURSUANT TO ARTICLE 8 OF LAW NO. 75-633 OF 15 JULY 1975

****

Considering Law No. 75-633 of 15 July 1975 relative to the elimination of wastes and the salvaging of materials, particularly Article 8;

Considering Decree No. of taken in pursuance of Article 8 of Law No. 75-633 of 15 July 1975, particularly Article 1;

Considering the decision of the Public Hygiene Council on the date of

ARTICLE 1.

The categories of wastes pursuant to Article 8 of Law No. 75-633 of 15 July 1975 are those:

1) which contain the following substances:

- trivalent chrome
- hexavalent chrome
- arsenic or its compounds
- cadmium "
- thallium "
- beryllium "
- selenium "
- antimony "
- vanadium "
- copper "
- zinc "
- tin "
- cyanides "
- fluorides "
- sulfurs and compounds
- phenols and compounds
- isocyanates
- polychlorobiphenyls
- chlorinated solvents
- aromatic solvents
- asbestos

as well as substances marked by symbols T or E in the list established pursuant to the provisions of Article L231-6 of the Labor Law.

2) which contain radioactive substances,

3) which are composed of the following substances:

-hydrocarbons,

-paint sediments,

-sludge products.

4) which originate from chemical operations of the refining industries of petroleum and its derivatives, of cokefaction, of chemistry, of pharmaceutics, of phytopharamaceutics and of laboratories,

5) which originate from activities of surface processing shops.

ARTICLE 2.

The producers, importers, and eliminators of the categories of wastes defined in Article 1 of the present decree must furnish, at the request of the department charged with control of the classified establishments, all useful information for appraising the origin, characteristics, quantities, conditions of elimination or confinement as well as the final destination of their wastes.

Should the occasion arise, it could recommend the dispatch of a declaration, the maintenance of a register, the information there represents as well as the presentation of all documents to justify said information. A decree of the Ministry of the Environment will specify to this effect to which categories of wastes pursuant to Article 1, and should the occasion arise, to which conditions of content and quantity, all or part of these procedures apply.

ARTICLE 3.

The transporters of categories of wastes defined in Article 1 of the present decree must furnish, at the request of the departments charged with control, all useful information for appraising the origin, characteristics, quantities and final destination of said wastes.

To this effect, a decree of the Ministry of the Environment and Transports would prescribe in particular the establishment, by the shipping agent, of a declaration of shipment which must be presented by the transporter at the demand of the control department.

ARTICLE 4.

The Ministry of Quality of Life, the Ministry of Industry, and the Secretary of State for Transports are charged, each one in that which concerns it, with the execution of the present decree, which will be published in the official journal of the French Republic.

Paris.....

D r a f t

Classification of Hazardous Wastes

a) Residues and waste substances belonging to Class IIIa (UN Class 3.1, 3.2, and 3.3)

1. Residues and waste substances which mainly consist of substances of Class IIIa and have a flash-point up to 55 °C and are only to a small extent polluted by substances of Class IVa (UN Class 6.1) and which with regard to pollution by substances of Class V (UN Class 8) are chemically neutral. In case these substances are chemically not neutral, the provision concerning Class V shall be complied with.

2. Residues and waste substances which mainly consist of substances of Class IIIa and have a flash-point above 55 °C and are only to a small extent polluted by substances of Class IVa and which with regard to the pollution by substances of Class V are chemically neutral. In case the substances are chemically not neutral, the provisions concerning Class V shall be complied with.

b) Residues and waste substances belonging to Class IVa (UN Class 6.1)

3. Residues and waste substances which contain substances and articles mainly belonging to Class IVa and have a flash-point up to 55° C and which with regard to the pollution by substances of Class V are chemically neutral.

4. Residues and waste substances which contain substances and articles mainly belonging to Class IVa and have a flash-point above 55° C or are non-inflammable and which with regard to the pollution by substances of Class V are chemically neutral.

5. Residues and waste substances which contain substances and articles mainly belonging to Class IVa and have a flash-point up to 55° C and which with regard to the pollution by substances of Class V are chemically not neutral.

6. Residues and waste substances which contain substances and articles mainly belonging to Class IVa and have a flash-point above 55° C or are non-inflammable and which with regard to the pollution by substances of Class V are chemically not neutral.

c) Residues and waste substances belonging to Class V (UN Class 8)

7. Residues and waste substances which contain substances and articles mainly belonging to Class V and have a flash-point up to 55° C.

8. Residues and waste substances which contain substances and articles mainly belonging to Class V and which have a flash-point above 55° C or are non-inflammable.

DEFINITIONS OF CLASSES AND DIVISIONS

Definitions of classes for the purpose of protection of the environment

15. The Group noted that, in accordance with the decision taken at its previous session and as a result of the meeting between the Chairman of the Committee of Experts, accompanied by a delegation of the Group of Rapporteurs, and a senior official of the United Nations Environment Programme (E/CN.2/CONF.5/58, para.14), the secretariat had addressed an official letter to the Executive Director of the Programme inviting him to send a representative to the present session.

16. The Group was also informed, through a conference room paper submitted by the Rapporteur from Canada, of the secretariat's reply to a request by the Environment Directorate of the Organisation for Economic Co-operation and Development (OECD) for information on the work of the United Nations Committee of Experts, and of the decision taken by the Chemicals Group of the Environment Committee of OECD in December 1975 concerning a labelling system for polychlorinated biphenyls (PCBs) and PCB-containing products.

17. In the same context, the Rapporteur from Canada made the proposals contained in document E/CN.2/CONF.5/R.498 concerning specific measures to be taken to affirm the role of the Committee of Experts in matters relating to the protection of the environment during transport, and to respond to the request made by OECD.

18. After detailed discussion, the Group confirmed its previous position which reflected its desire to avoid the adoption of divergent approaches by different organizations to the environmental problems occurring in transport, since the Committee of Experts had acquired considerable experience in matters relating to the transport of substances most of which were harmful to the environment. The Group then considered how its position could be maintained in practice.

19. At the conclusion of this discussion, the Group of Rapporteurs decided that OECD should be invited to submit for consideration at the next session:

- the list of products which were particularly hazardous from an environmental standpoint during transport,
- the criteria that should be used with a view to their classification,
- the list of substances which, in the opinion of that organization, should be labelled.

20. The secretariat was instructed to address a reply to that effect to OECD, and the Group of Rapporteurs invited individual Rapporteurs and IMCO to submit proposals under those headings for consideration at the next session.

21. During the discussion the Rapporteur from the Federal Republic of Germany recalled the proposals submitted by the Government of France in document E/CN.2/CONF.5/R.357 for the inclusion of polychlorinated biphenyls in Division 6.1.

Attachment C

DEPARTMENT OF THE ENVIRONMENT
2 Marsham Street, London SW1P 3EB
Direct Line: 01-212 8167

ATTACHMENT D

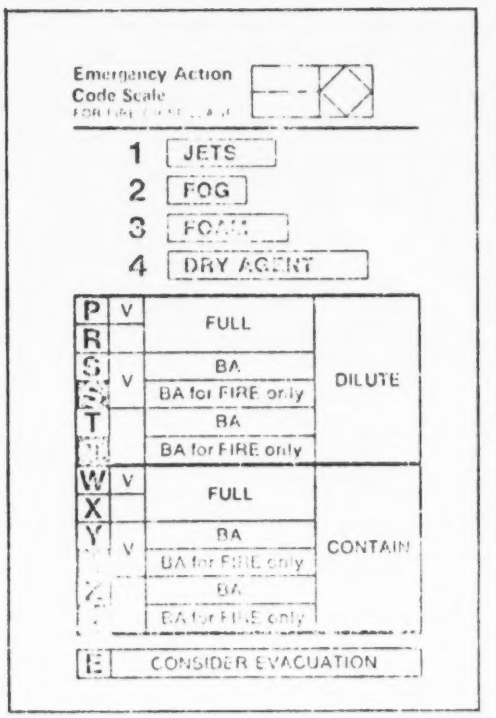
UK HAZARD INFORMATION SYSTEM
PROVISIONAL SUBSTANCE IDENTIFICATION NUMBERS
LIST NO 3

AUGUST 1976

PROVISIONAL NO	SUBSTANCE	CLASS	GROUP
7006	Hazardous waste, liquid, containing acid		
7007	Hazardous waste, solid or sludge, containing acid		
7008	Hazardous waste, liquid, containing alkali		
7009	Hazardous waste, solid or sludge, containing alkali		
7010	Hazardous waste, inflammable liquid, flash point less than 23°C		
7011	Hazardous waste, inflammable liquid, flash point 23°C to 61°C		
7012	Hazardous waste, inflammable, solid or sludge, n.o.s.		
7013	Hazardous waste, miscellaneous, packaged*, n.o.s.		
7014	Hazardous waste, solid or sludge, n.o.s.		
7015	Hazardous waste, liquid, n.o.s.		
7016	Hazardous waste, solid or sludge, toxic, n.o.s.		
7017	Hazardous waste, liquid, toxic, n.o.s.		
7018	Hazardous waste, solid containing inorganic cyanides		
7019	Hazardous waste, liquid, containing inorganic cyanides		
7020	Hazardous waste, solid or sludge, agrochemicals, toxic, n.o.s.		
7021	Hazardous waste, liquid, agrochemicals, toxic, n.o.s.		
7022	Hazardous waste, containing isocyanates, n.o.s.		
7023	Hazardous waste, containing [illegible], n.o.s.		

* Relates to carriage in drums, jerricans, boxes and other receptacles

The emergency action code scale is as follows:



Notes for Guidance

FOG

In the absence of fog equipment a fine spray may be used

DRY AGENT

Water must not be allowed to come into contact with the substance at risk.

V

Can be violently or even explosively reactive.

FULL

Full body protective clothing with BA

BA

Breathing apparatus plus protective gloves.

DILUTE

May be washed to drain with large quantities of water.

CONTAIN

Prevent, by any means available, spillage from entering drains or water course

3D

NATO/CCMS PILOT STUDY ON THE DISPOSAL OF HAZARDOUS WASTES - TRANSPORT SUB PROJECT

Note by UK with regard to Recommendation 3:-

"The UK would prefer the categorisation of wastes to be along the lines of the provisional list at present under discussion in the UK for the labelling of tank vehicles (see attachment). The UK hazard information system also gives appropriate advice to cover environmental aspects, eg the prevention of spillages from escaping into water courses, by the use of letters indicating the instruction "Contain" when relevant."